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an inclination adjustment means for manually adjusting inclination of a predetermined amount, wherein the operation amount is calculated from an inclination reference position where an inclination line connecting the fulcrum and the point of action of the inclination adjustment means is parallel with the base line of the moving means.

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#### REMARKS

Claims 1-8 and 10-12 are pending. By this Amendment, the specification is amended; claims 3, 4 and 8 are amended; claim 9 is canceled; and Figs. 17 and 18 are corrected by the attached Request for Approval of Drawing Corrections. Reconsideration based on the above amendments and following remarks is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten paragraph (37 C.F.R. §1.121(b)(1)(iii)) and claim (37 C.F.R. §1.121(c)(1)(ii)).

#### **I. Drawing Objections are Obviated**

In paragraph 1, the Office Action objects to Figs. 17 and 18, and asserts that only that which is old is illustrated. A Request for Approval of Drawing Corrections is attached and corrects Figs. 17 and 18 by adding the label "prior art". The specification is also amended to reference Figs. 17 and 18 as showing example workpieces of the related art. Withdrawal of the objection to Figs. 17 and 18 is respectfully solicited.

#### **II. Claim 3 Objection is Obviated**

In paragraph 2, the Office Action objects to claim 3 for informalities. Claim 3 is now amended above to obviate the claim objection. Withdrawal of the objection to claim 3 is respectfully solicited.

#### **III. The Claims Define Allowable Subject Matter**

The Office Action rejects claims 8-12 under 35 U.S.C. §102(b) over WO 90/12277 to Bielle et al. (hereinafter "Bielle"); and claims 1-7 under 35 U.S.C. §103(a) over JP 08-029153 to Fukuda in view of Bielle. These rejections are respectfully traversed.

Regarding the rejection of claims 8-12 under 35 U.S.C. §102(b), claim 8 incorporates the features of the canceled claim 9. Applicants respectfully submit that Bielle does not disclose "manually adjusting inclination of a predetermined amount, wherein the operation amount is calculated from an inclination reference position where an inclination line connecting the fulcrum and the point of action of the inclination adjustment means is parallel with the base line of the moving means," as now recited in claim 8.

A feature of claim 8 as amended is an absolute quantity of the operation amount to avoid the inclination adjustment error, as supported at lines 3-13 on page 19 of the specification.

On the other hand, Bielle obtains data for collimating the workpiece by processing different measurements based on each Z-axis coordinate of three adjustable support points (130). Specifically, Bielle calculates a relative quantity.

Accordingly, claim 8 is clearly different from Bielle.

Regarding claims 1-7, claim 3 is amended to correct informalities only, and claim 4 is amended to clarify that "calculating orientation of the workpiece from the positions to obtain an absolute quantity of an orientation correction amount to the measurement direction;" as recited in claim 4. No new matter is added.

Regarding the §103 rejection of claims 1-7, Bielle does not disclose the swivel correction angle calculated to manually rotate the workpiece-orientation-adjusting table (140) within the X-Y plane. Further, Bielle does not disclose that after the table is manually rotated within the X-Y plane, the table is adjusted in the Y-axis direction.

Thus, Bielle does not teach, disclose or suggest "calculating ... a swivel correction angle ... manually displacing the workpiece orientation adjustment stage in the Y-axis direction in accordance with the swivel correction angle displayed on the swivel correction angle display; and a swivel adjustment means for manually rotating the workpiece orientation adjustment stage within the X-Y plane to adjust orientation thereof," as recited in claim 1;

and "calculating orientation of the workpiece from the positions to obtain an absolute quantity of an orientation correction amount to the measurement direction; ... and operating an adjustment means of the workpiece orientation adjustment stage to correct the orientation of the workpiece," as recited in claim 4.

Regarding claims 1-7 rejected under 35 U.S.C. §103(a), Fukuda does not make up for these deficiencies.

Fukuda automatically corrects angle of workpiece during all operations (except predetermined setting operation such as initial setting operation). Accordingly, Fukuda discloses "fully-automatic operation".

On the other hand, the present invention discloses "semiautomatic operation" (i.e., after the device automatically calculates and displays the correction angle, the operator manually inputs the correction angle).

The semiautomatic operation provides advantages such that (1) since the semiautomatic operation needs no motors, the production cost can be reduced and the device can be downsized and lightened, and (2) since the semiautomatic operation requires no heat source, thermal expansion of measurement device can be decreased, so that high accuracy can be obtained. Accordingly, the present invention is NOT "mere regression to manual operation".

Furthermore, the "swivel angle" in claim 1, and as amended in claim 4, (angle within X-Y plane relative to the X-axis) is an absolute quantity to the base line (i.e., X-axis) (see Fig. 3), as discussed above.

For at least these reasons, it is respectfully submitted that Bielle does not anticipate the subject matter of claims 8-12 under 35 U.S.C. §102(b); and a combination of Fukuda and Bielle does not render obvious the subject matter of claims 1-7 under 35 U.S.C. §103(a). Withdrawal of the rejection of claims 8-12 under 35 U.S.C. §102(b) over Bielle; and claims 1-7 under 35 U.S.C. §103(a) over Fukuda in view of Bielle is respectfully requested.

**IV. Conclusion**

For at least the reasons discussed above, it is respectfully submitted that this application is in condition for allowance.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachments:

Appendix  
Request for Approval of Drawing Corrections

Date: July 9, 2002

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**Alexandria, Virginia 22320**  
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DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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## Changes to Specification:

Page 1, lines 19-21:

Conventionally, a form measuring instrument for measuring surface roughness or profile of a workpiece having cylindrical shape, conic shape etc. is known. Figs. 17 and 18 show example workpieces of the related art (Japanese Patent Laid-Open Publication No. Hei 8-29153 to Fukuda).

Page 22, line 35 - page 23, line 1:

Incidentally, the scope of the present invention is not restricted to the above-described respective embodiments but includes other arrangement as long as an object to the present invention can be attained, including below-described modification. For example, the present invention can work with the workpieces of the related art (Fukuda) as shown in Figs. 17 and 18.

## Changes to Claims:

Claim 9 is canceled.

The following is a marked-up version of the amended claims:

3. (Twice Amended) The surface texture measuring machine according to Claim 2, wherein each of the Y-axis adjustment means, the swivel adjustment means, and the inclination adjustment means ~~respectively~~ include a micrometer head.

4. (Twice Amended) An orientation-adjustment method of a workpiece using a surface texture measuring machine, the workpiece having an edge line, the workpiece orientation adjustment stage being movable in a measurement direction (X-axis direction) and in a direction (Y-axis direction) orthogonal with the X-axis direction within a horizontal plane and rotatable in a X-Y plane, the workpiece orientation adjustment stage being capable of seesawing in a direction (Z-axis direction) orthogonal with the X-axis direction within a

perpendicular plane, and the surface texture of the workpiece being scanned by a sensor movable in the X-axis direction after adjusting orientation of the workpiece orientation adjustment stage, the orientation adjusting method comprising the steps of:

measuring positions of the workpiece relative to the sensor at a measuring start point and a measurement end point;

calculating orientation of the workpiece from the positions to obtain an absolute quantity of an orientation correction amount to the measurement direction;

displaying or printing the orientation correction amount; and

operating an adjustment means of the workpiece orientation adjustment stage to correct the orientation of the workpiece.

8. (Twice Amended) An leveling device for a surface texture measuring machine, the surface texture measuring machine comprising: a displacement detecting means movable in a measurement direction (X-axis direction) for measuring displacement on a surface of a workpiece; and a moving means for moving the displacement detecting means in the measurement direction to scan a displacement signal from the displacement detecting means, the surface texture measuring machine adjusting an amount of a workpiece stage relative to a base line as a movement locus of the displacement detecting means, the leveling device comprising:

a fulcrum during measurement and adjustment and a point of action working relative to the fulcrum;

a manipulated valuable calculation means for scanning the surface of the workpiece by the displacement detecting means and for calculating a center locus, a inclination of the surface of the workpiece, of measurement data based on a displacement signal from the displacement detecting means to calculate a operation amount at the point of

action relative to the fulcrum required for paralleling the center locus with the base line of the moving means;

an output means for displaying, printing or outputting as data the operation amount; and

an inclination adjustment means for manually adjusting inclination of a predetermined amount, wherein the operation amount is calculated from an inclination reference position where an inclination line connecting the fulcrum and the point of action of the inclination adjustment means is parallel with the base line of the moving means.